

# **Federal Recovery Outline**

## **Puget Sound Steelhead Distinct Population Segment**



*Prepared by*  
**National Marine Fisheries Service  
Northwest Region**



# **NOAA FISHERIES**

## Disclaimer

*This recovery outline provides interim guidance for recovery until a recovery plan is developed. In this recovery outline, we present the preliminary conservation strategy that NMFS and partners will use to guide recovery actions for Puget Sound steelhead in a systematic, cohesive way until a recovery plan is available. We will use this outline as an organizational tool to document pre-planning decisions for Puget Sound steelhead recovery and expedite recovery plan development. For pre-planning decisions that cannot be documented by NMFS alone, we will use the recovery outline to solicit feedback and guide decision-making, after which NMFS, in collaboration with recovery partners, will prepare the recovery plan.*

*Cover photo by John McMillan of first wild steelhead radio tagged in the Elwah River after dam removal.*

## List of Acronyms and Abbreviations

BRT	Biological Review Team
DIP	Demographically independent population
DPS	Distinct population segment
EFH	Essential fish habitat
ESA	Endangered Species Act
HCP	Habitat conservation plan
MPG	Major population group
MSA	Magnuson-Stevens Fishery Conservation and Management Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NWFSC	Northwest Fisheries Science Center
NWR	Northwest Region
Partnership	Puget Sound Partnership
PCSRF	Pacific Coastal Salmon Recovery Fund
PRD	Protected Resources Division
PSSTRT	Puget Sound Steelhead Technical Recovery Team
PVA	Population viability analysis
QET	Quasi-extinction threshold
Recovery Council	Salmon Recovery Council
RITT	Puget Sound Recovery Implementation Technical Team
WDFW	Washington Department of Fish and Wildlife

<b>Disclaimer.....</b>	<b>2</b>
<b>List of Acronyms and Abbreviations.....</b>	<b>3</b>
<b>I. Introduction .....</b>	<b>5</b>
Recovery Outline Purpose .....	5
General Information.....	5
<i>Species Name</i> .....	5
<i>Listing Status</i> .....	5
<i>Recovery Priority Number</i> .....	5
<i>Date Listed</i> .....	5
<i>Critical Habitat</i> .....	5
<i>NMFS Contact Office</i> .....	5
<i>Available Information to Inform Recovery Planning</i> .....	5
<b>II. Biological Information .....</b>	<b>7</b>
Biological Requirements .....	7
<i>Life History</i> .....	7
<i>Critical Habitat</i> .....	7
<i>Status</i> .....	8
<i>Population Structure and Viability</i> .....	10
Threats.....	12
Conservation Actions .....	12
Summary Statement of Recovery Needs .....	14
<b>III. Preliminary Recovery Strategy .....</b>	<b>15</b>
Preliminary Recovery Tasks .....	15
Preliminary Coordination Plan.....	15
<b>IV. Pre-Planning Decisions .....</b>	<b>16</b>
Product .....	16
Scope of Recovery Plan.....	16
Records.....	16
Recovery Planning Partners .....	16
<i>Northwest Tribes</i> .....	16
<i>Washington Department of Fish and Wildlife</i> .....	17
<i>Puget Sound Partnership and the Salmon Recovery Council</i> .....	17
<i>Puget Sound Recovery Implementation Technical Team</i> .....	17
<i>Puget Sound Steelhead Technical Recovery Team</i> .....	17
Coordination with Recovery Planning Partners .....	18
<i>Planning Approach</i> .....	18
<i>Roles and Responsibilities</i> .....	19
<i>Schedule Considerations</i> .....	19
<i>Prompt Questions</i> .....	20
<b>V. Literature Cited .....</b>	<b>21</b>

## **I. Introduction**

### **Recovery Outline Purpose**

NOAA's National Marine Fisheries Service (NMFS) developed this recovery outline to guide and document the recovery planning process underway for the Puget Sound steelhead (*Oncorhynchus mykiss*) distinct population segment (DPS). The recovery outline documents the preliminary conservation strategy that NMF5/16S and partners will use to guide recovery actions, ensure that future recovery options are not precluded, and document pre-planning decisions to focus and expedite recovery plan development.

### **General Information**

#### **Species Name**

Puget Sound steelhead (*Oncorhynchus mykiss*) DPS

#### **Listing Status**

Threatened under the U.S. Endangered Species Act (ESA)

#### **Recovery Priority Number**

We assigned the DPS a recovery priority number of 1, because of a high magnitude of threat, high recovery potential, and the presence of conflict (NMFS 2010). The magnitude of threat is high because of strong risks to abundance, productivity, spatial structure, and diversity, and because Puget Sound steelhead face a strong extinction risk in the foreseeable future. Furthermore, delaying recovery actions likely would result in increased extinction risk rather than maintaining the status quo risk level. The recovery potential is high, because the factors limiting recovery and their demographic impacts are somewhat understood, and integrated reduction of threats could achieve recovery of this DPS. Finally, we determined that conflict exists because of the complex variety of activities and management practices that continue to affect the conservation and recovery of all Pacific salmonids listed under the ESA.

#### **Date Listed**

Final rule published on May 11, 2007; effective date of listing June 11, 2007 (72 FR 26722)

#### **Critical Habitat**

Proposed rule published on January 14, 2013 (78 FR 2726)

#### **NMFS Contact Office**

National Marine Fisheries Service (NMFS), Northwest Regional Office (NWR), 7600 Sand Point Way NE, Seattle, WA 98115

#### **Available Information to Inform Recovery Planning**

The following information will inform Puget Sound steelhead recovery planning:

- In 2007, a biological review team (BRT) developed a final report of Puget Sound steelhead status (Hard et al. 2007). The DPS was listed as threatened in May of 2007 (72 FR 26722).

- In 2008, NMFS applied the 4(d) protective regulations adopted for other Pacific salmonids as amended in June 2005 (70 FR 37160) to Puget Sound steelhead (73 FR 55451).
- Also in 2008, Washington Department of Fish and Wildlife (WDFW) developed a statewide steelhead management plan (WDFW 2008).
- In November 2011, NMFS conducted a five-year review and concluded that the status of the listed Puget Sound steelhead DPS has not changed substantially since the 2007 listing, and that the species should remain listed as threatened (Ford 2011; 76 FR 500448).
- Also in 2011, the Puget Sound Steelhead Foundations Project conducted habitat mapping of baseline habitat conditions (NWIFC 2011).
- As part of the recovery planning process, NMFS convened a technical recovery team to identify historic populations and develop viability criteria for the recovery plan. On November 4, 2011, the Puget Sound Steelhead Technical Recovery Team (PSSTRT) released for review a draft report describing the historical population structure of Puget Sound steelhead. The PSSTRT received comments from external reviewers and on August 2, 2012, released a revised draft report describing historical population structure. In addition, the PSSTRT released for review a draft report describing viability criteria for Puget Sound steelhead (PSSTRT 2013a, 2013b).
- In 2012, the Northwest Indian Fisheries Commission published the “2012 State of Our Watersheds”, a comprehensive assessment of the health of watersheds in Watershed Resource Inventory Areas 1-23 and progress toward salmon recovery (NWIFC 2012).
- Critical habitat for the DPS was proposed on January 14, 2013 (78 FR 2726).

## **II. Biological Information**

### **Biological Requirements**

#### **Life History**

Pacific salmon and steelhead are anadromous fish, meaning adults migrate from the ocean to spawn in freshwater lakes and streams where their offspring hatch and rear prior to migrating back to the ocean to forage until maturity. The complex life cycle of Pacific salmon and steelhead gives rise to multifaceted habitat needs, particularly during the freshwater phase. During all life stages salmon and steelhead require cool water that is free of contaminants. They also require migratory corridors with adequate passage conditions (e.g., unobstructed channel, adequate water quality, and quantity) to allow them access to the various habitats required to complete their life cycle.

The migration and spawning times vary considerably between and within species and populations (Groot and Margolis 1991). In contrast with other species of Pacific salmonids, steelhead are iteroparous, capable of repeat spawning. Steelhead populations can be divided into two basic reproductive ecotypes, based on the state of sexual maturity at the time of river entry and duration of spawning migration (Burgner et al. 1992). Puget Sound steelhead have two distinct life history strategies for spawning or “run” migration (Hard et al. 2007):

- (1) Winter-run migrations: Winter-run or ocean-maturing steelhead spawn relatively soon after entering freshwater. Winter-run steelhead, presently and historically, represent the predominant life history type in Puget Sound.
- (2) Summer-run migrations: Summer-run or stream-maturing steelhead return to freshwater in a relatively immature state and hold there until spawning the following spring. The return timing of summer-run steelhead generally coincides with river flow patterns that allow access past barriers to headwater spawning areas.

More details about life history, life cycle, and biological requirements of Puget Sound steelhead are available in the final listing rule and status reviews (72 FR 26722, Hard et al. 2007, Ford 2011).

#### **Critical Habitat**

NMFS proposed to designate critical habitat for Puget Sound steelhead, including approximately 1,880 mi (3,026 km) of freshwater and estuarine habitat in Puget Sound, Washington, and excluding a number of particular areas from designation (78 FR 2726). Notable is the proposed exclusion of nearshore areas: “given the best available information, we conclude that there are no specific nearshore areas within the geographical area occupied by Puget Sound steelhead on which are found those physical or biological features essential to their conservation.” Although the physical or biological features of critical habitat proposed for Puget Sound steelhead are the same as those designated for Puget Sound Chinook and Hood Canal summer-run chum, watershed conservation values for steelhead may be different because of differences in population structure and habitat use.

### Status

The 2007 BRT made the most recent assessments of Puget Sound steelhead productivity, spatial structure, and diversity when they concluded that low and declining abundance and low and declining productivity were substantial risk factors for the species (Hard et al. 2007). Loss of diversity and spatial structure were judged to be “moderate” risk factors. The 2011 status review retained the risk category for the DPS based upon the extinction risk of the component populations (Table 1). NMFS issued results of the five-year review on November 2011 (Ford 2011), and concluded that this DPS should remain listed as threatened (76 FR 500448). The PSSTRT completed a set of population viability analyses (PVAs) for these populations and major population groups (MPGs) within the DPS (the DPS is a metapopulation comprised of MPGs that are in turn comprised of individual populations).

**Table 1.** Puget Sound steelhead populations and risk of extinction (PSSTRT 2013b).

<b>Geographic Region (MPGs)</b>	<b>Population (Watershed)</b>	<b>Extinction Risk (Probability of decline to an established quasi-extinction threshold (QET) for each population)</b>	<b>QET<sup>1</sup> (# of fish)</b>
Northern Cascades	Samish River (winter)	Low—about 30% within 100 years	31
	Skagit River (summer/winter)	Low—about 10% within 100 years.	157
	Snohomish River (winter)	Low—about 40% within 100 years	73
	Stillaguamish River (winter)	High—about 90% within 25 years	67
	Tolt River (summer)	High—about 80% within 100 years	25
	Snoqualmie (winter)	High—about 70% within 100 years	58
	Nooksack River (winter)	Unable to calculate	--
	Pilchuck (winter)	Low—about 40% within 100 years	34
Central and Southern Cascades	Cedar River (summer/winter)	High—about 90% within the next few years	36
	Green River (winter)	Moderately High—about 50% within 100 years	69
	Nisqually River (winter)	High—about 90% within 25 years	55
	Puyallup River (winter)	High—about 90% within 25 - 30 years	
	White River (winter)	Low—about 40% within 100 years	64
	South Sound Tributaries (winter)	Unable to calculate percentage	--
	Chambers Creek	Not calculated at this time	--
Hood Canal and Strait de Fuca	Elwha River (summer/winter)	High— about 90% currently	41
	Dungeness River (winter)	High—about 90% within 20 years	30
	Port Angeles (winter)	High—about 80% within 100 years	--
	South Hood Canal	High—about 90% within 20 years	30
	West Hood Canal (winter)	Low—about 20% within 100 years	32
	East Hood Canal (winter)	Low—about 40% within 100 years	27
	Skokomish River (winter)	High—about 70% within 100 years	50
	Strait of Juan de Fuca Tributaries (winter)	High—about 90% within 100 years (Snow Creek); about 90% within 60 years (Morse & McDonald creeks)	25 (Snow Creek); 26 (Morse & McDonald creeks)

<sup>1</sup>Quasi-extinction threshold

The 2007 BRT considered the major risk factors facing Puget Sound steelhead to be: widespread declines in abundance and productivity for most natural steelhead populations in the DPS, including those in Skagit and Snohomish rivers (previously considered to be strongholds); the low abundance of several summer-run populations; and the sharply diminishing abundance of some steelhead populations, especially in south Puget Sound, Hood Canal, and the Strait of Juan de Fuca (Hard et al. 2007).

For all but a few Puget Sound steelhead populations, estimates of mean population growth rates obtained from observed spawner or redd counts are declining—typically 3 to 10 percent annually—and extinction risk within 100 years for most populations in the DPS is estimated to be moderate to high, especially for populations in the South Sound and Olympic MPGs. Most populations within the DPS continue downward trends in estimated abundance, a few sharply so (Ford 2011).

### **Population Structure and Viability**

The homing fidelity of salmon and steelhead has created a meta-population structure with discrete populations distributed among watersheds (McElhany et al. 2000). Low levels of straying result in regular genetic exchange among populations, creating genetic similarities among populations in adjacent watersheds. Maintenance of the meta-population structure requires a distribution of populations among watersheds where environmental risks (e.g., from landslides or floods) are likely to vary. It also requires migratory connections among the watersheds to allow for periodic genetic exchange and alternate spawning sites in the case that natal streams are inaccessible due to natural events such as a drought or landslide.

The Puget Sound steelhead DPS includes all naturally spawned anadromous winter-run and summer-run steelhead populations in streams in the river basins of the Strait of Juan de Fuca, Puget Sound, and Hood Canal, Washington, bounded to the west by the Elwha River (inclusive) and to the north by the Nooksack River and Dakota Creek (inclusive), as well as the Green River natural and Hamma Hamma winter-run steelhead hatchery stocks. Non-anadromous “resident” *O. mykiss* occur within the range of Puget Sound steelhead but are not part of the DPS (73 FR 26722) although they may interbreed with steelhead. The Puget Sound steelhead populations are tentatively aggregated into three extant MPGs containing a total of 32 demographically independent populations (DIPs) based on genetic, environmental, and life history characteristics (PSSTRT 2013a) (Table 1; Figure1). MPGs can include summer steelhead only, winter steelhead only, or a combination of summer- and winter-run timing (i.e., summer/winter population).

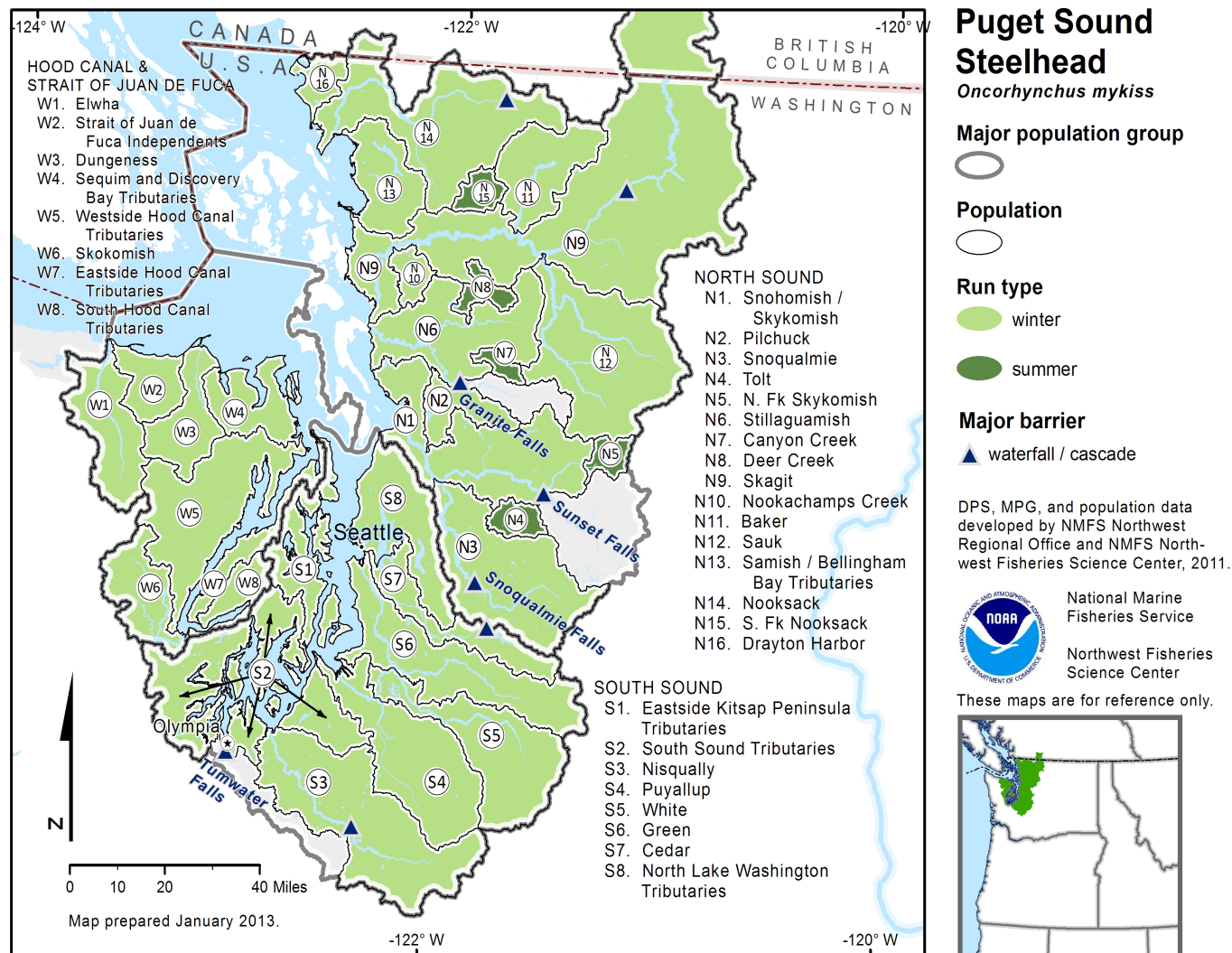


Figure 1. MPGs, populations, and run types (winter and summer) across the range of the Puget Sound steelhead DPS.

## Threats

NMFS, in its listing document of 2007 (72 FR 26722), noted that the factors leading to the decline of Puget Sound steelhead are also the factors that limit its recovery:

- The continued destruction and modification of steelhead habitat contributed to the present decline of Puget Sound steelhead populations and remains the principal factor limiting viability of the Puget Sound steelhead DPS into the foreseeable future
- Widespread declines in adult abundance (total run size), despite significant reductions in harvest in recent years
- Threats to diversity posed by use of two hatchery steelhead stocks (Chambers Creek and Skamania), which are inconsistent with wild stock diversity throughout the DPS
- Declining diversity in the DPS, including the uncertain but weak status of summer-run fish
- A reduction in spatial structure for steelhead in the DPS
- Reduced habitat quality through changes in river hydrology, temperature profile, downstream gravel recruitment, and reduced movement of large woody debris
- In the lower reaches of many rivers and their tributaries in Puget Sound where urban development has occurred, it has caused increased flood frequency and peak flows during storms, and reduced groundwater-driven summer flows. Altered stream hydrology has resulted in gravel scour, bank erosion, and sediment deposition.
- Dikes, hardening of banks with riprap, and channelization, have reduced river braiding and sinuosity and increased the likelihood of gravel scour and dislocation of rearing juveniles

In addition to known threats, current research indicates low early marine survival of Puget Sound steelhead. Additional threats may be uncovered as marine survival is further investigated.

## Conservation Actions

We took or currently are taking the following actions to address the conservation needs of Puget Sound steelhead.

### *Fishing Limits*

- Limits on steelhead fisheries were set through NMFS' ESA section 7 consultation on the Puget Sound Chinook Harvest Management Plan (NMFS 2011). In accordance with the incidental take statement, harvest is limited to 325 Puget Sound steelhead in marine fisheries and no more than a 4.2% harvest rate in freshwater fisheries for the five following watersheds: Skagit, Snohomish, Green, Puyallup, and Nisqually. In the remaining watersheds, harvest will remain within the range observed from the 2000/2001 to 2006/2007 seasons.

### ***ESA Regulations***

- In 2008, NMFS applied the 4(d) protective regulations adopted for other Pacific salmonids as amended in June 2005 (70 FR 37160) to Puget Sound steelhead (73 FR 55451).
- Critical habitat for the DPS was proposed on January 14, 2013 (78 FR 2726).
- Federal agencies must consult with NMFS under ESA section 7(a)(2) to ensure that their activities do not jeopardize listed species or adversely modify critical habitat, and also consult under the Magnuson-Stevens Fishery Conservation and Management Act (MSA) to conserve essential fish habitat (EFH). While steelhead are not the subject of MSA consultations, their habitats overlap with those of other salmonids that are the subject of many MSA consultations.
- Several habitat conservation plans (HCPs), authorized under Section 10 of the ESA, provide habitat conservation for Puget Sound steelhead. These include the City of Seattle Cedar River Watershed HCP, the City of Tacoma Green River Water Supply HCP, the Green Diamond Timber HCP, the City of Kent Rock Creek Watershed HCP, the Plum Creek Timber HCP, the Washington Department of Natural Resources State Forest Trust Lands and Forest Practice Rules HCPs. All are accessible online:  
[http://www.nwr.noaa.gov/habitat/habitat\\_conservation\\_plans/habitat\\_conservation\\_plans.html](http://www.nwr.noaa.gov/habitat/habitat_conservation_plans/habitat_conservation_plans.html)).

### ***Ongoing Research and Conservation Actions***

- In 2000, Congress established the Pacific Coastal Salmon Recovery Fund (PCSRF) to protect, restore, and conserve Pacific salmon and steelhead populations and their habitat. NMFS manages the PCSRF program, which funds states and tribes to implement restoration projects. To date, the program has resulted in over 1,000 projects and over 180 million dollars of funding in Puget Sound. Many of the projects funded in Puget Sound benefit Puget Sound steelhead and their habitat.
- In 2007, the NWR approved Washington State's Habitat Restoration Program (HRP), under the ESA section 4(d) Limit 8. This programmatic approval enabled hundreds of PCSRF-funded habitat restoration projects to proceed without additional review by NMFS. Washington's HRP relies on watershed-level analyses of limiting factors, and local technical review of proposed projects.
- In 2011, the Puget Sound Steelhead Foundations Project conducted habitat mapping of existing habitat conditions for Puget Sound steelhead (NWIFC 2011).
- In 2011, NMFS Northwest Fisheries Science Center (NWFSC) published a NOAA technical memorandum of a science synthesis in support of new tools for evaluating stream engineering, management, and restoration proposals for sustainable stream ecosystems (Skidmore et al. 2011). The tools collectively known as the River Restoration Analysis Tool, or River RAT, are available online: <http://www.restorationreview.com/>.
- Also in 2011, the White House Council on Environmental Quality designated the Regional Administrators of the Environmental Protection Agency and NMFS, and the State Conservationist for the United States Department of Agriculture's Natural Resource Conservation Service as co-leads for a federal effort to

accelerate the protection and restoration of habitat in Puget Sound and the Washington coast. This endeavor responds to recent concerns raised by Western Washington Treaty Tribes about continued habitat losses and associated diminishment of fishery resources. The resulting Puget Sound Action Plan was developed in May of 2012 to strengthen federal partnerships and solidify a strategy for collective action to restore habitat ([http://www.nwr.noaa.gov/habitat/habitat\\_conservation\\_in\\_the\\_nw/puget\\_sound\\_action\\_plan.html](http://www.nwr.noaa.gov/habitat/habitat_conservation_in_the_nw/puget_sound_action_plan.html)).

- In 2012, the Salmon Recovery Funding Board funded recovery actions for Puget Sound steelhead that are currently underway to (1) study marine survival and (2) develop watershed-level recovery plans for two the Hood Canal and Nisqually River Valley watersheds.
- On January 31, 2013, NMFS NWR finalized its Conservation Banking Guidance, which provides an innovative model for salmon and steelhead recovery and habitat restoration (NMFS 2013). Conservation banks are directly applicable to many of NMFS' activities under its ESA and MSA authorities, including ESA section 7(a)(2) consultations, section 10(a)(1)(B) permits, section 7(a)(1) responsibilities, and MSA EFH consultations.
- As an ongoing collaborative effort NMFS' NWFSC is working with the United States Geological Survey, National Park Service, WDFW, the Lower Elwah Klallam Tribe, and others to document steelhead colonization of the Elwah River following dam removal. This work involves fish ecology and genetics research and habitat monitoring.
- The behavioral ecology team at the NWFSC is currently conducting research on Puget Sound steelhead to evaluate effects of artificial propagation on natural populations, and the migratory behavior and survival of steelhead smolts in Puget Sound.
- Also as an ongoing effort, state and tribal hatchery genetic management plans (HGMPs) are under development, as is our NEPA process to evaluate these plans for Puget Sound hatcheries and a range of reasonable alternatives.

### **Summary Statement of Recovery Needs**

Major threats to Puget Sound steelhead still exist, even with the protections afforded by the listing, protective regulations, and proposed critical habitat designation. The above-identified threats need to be abated (see "Threats Assessment" above) particularly the foremost threat, the continued destruction and modification of steelhead habitat (Hard et al. 2007, Ford 2011).

### **III. Preliminary Recovery Strategy**

We describe the preliminary recovery strategy to guide recovery actions for Puget Sound steelhead in a systematic, cohesive way until a recovery plan is available. We anticipate working closely with the regional co-managers, recovery partners and other interested parties as we refine the recovery strategy for Puget Sound steelhead.

#### **Preliminary Recovery Tasks**

The following preliminary tasks will help NMFS and recovery-planning partners improve the potential for Puget Sound steelhead recovery.

##### ***Analyze Gaps and Identify Additional Recovery Actions***

Some recovery actions implemented for Puget Sound Chinook, Hood Canal summer-run chum, and bull trout (NMFS 2007) also will contribute to Puget Sound steelhead recovery. In other cases, new recovery actions will be necessary. A gap-analysis approach will be used to identify the need for new recovery actions at a watershed level. This task has begun to take shape with the development of two watershed-level plans currently underway in Puget Sound (see “Conservation Actions” above). Recommended actions of the Northwest Indian Fisheries Commission’s “2012 State of Our Watersheds” will also inform additional recovery actions.

##### ***Conduct Research to Fill Data Gaps***

Many data gaps and uncertainties exist for most populations of the Puget Sound steelhead DPS, including gaps in our knowledge of basic life history, abundance, productivity, genetic diversity, and threats to recovery. Research will play an important role in addressing data gaps. For example, ongoing research to study early marine survival of Puget Sound steelhead may improve our understanding of the threats limiting their recovery. Research to fill gaps in knowledge of basic life history, abundance, productivity and genetic diversity will allow us to monitor progress toward recovery.

##### ***Continue Ongoing Conservation Actions***

Ongoing conservation actions will also continue, including evaluating harvest management plans, HGMPs, critical habitat designation, and use of River RAT and other tools to guide investment of restoration dollars. Additionally, implementing the Puget Sound Chinook, summer-run chum, and bull trout recovery plan will continue.

#### **Preliminary Coordination Plan**

The following preliminary coordination plan outlines coordination efforts among divisions within NMFS and other entities involved in Puget Sound steelhead management and recovery.

##### ***Internal Coordination***

NMFS’ NWR will coordinate recovery planning for Puget Sound steelhead across NOAA, with the NWFSC, among divisions of the NWR engaged in management of Puget Sound steelhead, and other offices involved with enforcement of ESA regulations and conservation efforts that benefit Pacific salmonids.

### ***External Coordination***

NMFS NWR will continue coordinating NOAA's recovery planning efforts for Puget Sound steelhead with recovery planning efforts of external partners, whose functions are described in general under "Recovery Planning Partners" below.

## **IV. Pre-Planning Decisions**

### **Product**

NMFS, with input and support from regional co-managers and other partners, will develop a recovery plan for the Puget Sound steelhead DPS.

### **Scope of Recovery Plan**

The recovery plan will be a single-species plan that identifies the relationship of Puget Sound steelhead recovery planning and implementation to recovery implementation for Puget Sound Chinook and Hood Canal summer-run chum (NMFS 2007). The plan will include site-specific measures that will lead to recovery of the species, measurable criteria that will enable NMFS to evaluate progress toward recovery and delisting, and estimates of time and costs of recovery.

### **Records**

The records or docket will be housed in the NMFS NWR Seattle office in Seattle, WA.

### **Recovery Planning Partners**

The entities listed below are currently engaged and will continue to be involved in recovery planning for Puget Sound steelhead. Other groups may be identified as recovery planning moves forward, and the general public will be engaged through public review of a draft recovery plan.

#### **Northwest Tribes**

Northwest Indian tribes have legally enforceable treaty rights, including salmon harvest rights. The treaties reserved to the tribes the right of fishing "at all usual and accustomed grounds and stations." The Boldt Decision reaffirmed this right in 1974 (*U.S. v. Washington*, 384 F. Supp. 312, 362). Under the federal trust responsibility federal agencies, including NMFS, support the Tribes' efforts to preserve and rebuild Treaty salmon and steelhead fisheries. A Department of Commerce Secretarial Order (DAO 218-8; April 27, 2012) directs NMFS to work with Indian tribes on a government-to-government basis to promote healthy ecosystems, recognize the unique legal status of Indian lands, and affirm tribal management authorities and federal consultation responsibilities in carrying out the conservation activities of the ESA. The tribes are co-managers with state and federal agencies in the conduct of salmon stock assessment activities and in regulating harvest and hatchery actions affecting salmon. As part of these co-management responsibilities, the tribes are integral to the Salmon Recovery Council, Puget Sound Recovery Implementation Technical Team (RITT), and the PSSTRT, described in more detail below.

### **Washington Department of Fish and Wildlife**

The WDFW is an active co-manager with the tribes of harvest and hatchery actions affecting salmon and steelhead. Specifically, WDFW manages non-Indian fisheries and operates hatcheries. In this role, WDFW also helps develop harvest management plans and hatchery genetic management plans for listed species across the region, works toward the integration of habitat, harvest, and hatchery considerations at watershed and local levels. The agency participates in habitat restoration activities, monitors fish populations including steelhead, and is integral to the Salmon Recovery Council, RITT and PSSTRT, described in more detail below. WDFW's 2008 statewide steelhead management plan will help inform Puget Sound steelhead recovery planning (WDFW 2008) and provide technical findings from the agency's monitoring of steelhead populations.

### **Puget Sound Partnership and the Salmon Recovery Council**

Washington State designated the Puget Sound Partnership (Partnership) as the regional salmon and steelhead recovery lead on January 1, 2008, (under the Puget Sound Partnership Act, Section 49(3), RCW 77.85.090(3)). The Act designated the Partnership as the lead for implementing the Puget Sound Salmon Recovery Plan, which was developed by the Shared Strategy, a non-profit organization, and approved by NOAA in 2007. The Partnership focuses on region-wide scientifically supported and community based recovery. The Partnership works with local stakeholders and communities, Indian tribes, businesses, and state and federal agencies to identify, sequence, prioritize, and implement projects and programs to recover salmon.

The Salmon Recovery Council (Recovery Council) includes federal, state, tribal, and local policy decision-makers and serves as an advisory body to the Puget Sound Partnership. This group consists of representatives from each of the 14 Puget Sound watersheds, environmental and business communities, Indian tribes, and state and federal agencies involved in salmon recovery. The Recovery Council meets regularly to develop guidance for implementing existing recovery plans and advises on salmon recovery decisions.

### **Puget Sound Recovery Implementation Technical Team**

The RITT provides technical guidance to the Partnership, NMFS, and recovery planners to support salmon and steelhead recovery. The RITT receives staff support from the Partnership and functions as a technical advisory body for the Recovery Council. RITT members are developing a monitoring and adaptive management template that will be used by watershed teams to evaluate the effectiveness of recovery plan actions and guide adjustments as necessary.

### **Puget Sound Steelhead Technical Recovery Team**

The PSSTRT includes biologists from NMFS, tribes, and the State of Washington. A list of members and other information related to the PSSTRT is available at [http://www.nwfsc.noaa.gov/trt/trt\\_puget.htm](http://www.nwfsc.noaa.gov/trt/trt_puget.htm). NMFS asked the PSSTRT to identify the historical population structure of the Puget Sound steelhead DPS and recommend viability criteria for the DPS. This work is nearly complete. The PSSTRT is currently finalizing these documents, following public review and comment on previous drafts. The PSSTRT proper will dissolve when its viability criteria documents are completed.

NMFS anticipates one or more members from the PSSTRT to provide technical assistance as needed to a recovery team and will suggest their membership on the RITT to the Recovery Council.

### **Coordination with Recovery Planning Partners**

NMFS and our recovery planning partners agree that Puget Sound steelhead recovery planning should be consistent with the regional and watershed strategies used for Puget Sound Chinook and Hood Canal summer-run chum (NMFS 2007). NMFS and our partners intend to identify recovery actions and develop a Puget Sound steelhead recovery plan concurrent with ongoing implementation of the Puget Sound Chinook and Hood Canal summer-run chum plans. The draft Puget Sound Steelhead recovery plan will include site-specific recovery actions and measurable criteria for de-listing the listed DPS. NMFS recognizes that recovery planning for other species is ongoing at the watershed-level and ultimately, there will be watershed-level plans for steelhead as well. We are working with our recovery partners to determine how and when the watershed-level plans will be developed and how to proceed with steelhead recovery planning most efficiently and effectively. Below we outline options for the recovery planning approach and our preferred option for roles and responsibilities. We also include a schedule and questions to help generate productive discussions with recovery partners, confirm the planning strategy, and begin developing a recovery plan.

### **Planning Approach**

We identify three possible approaches that could be used to develop a Puget Sound steelhead recovery plan. Additionally, we will include an adaptive management framework as part of any approach.

**(1) Develop a recovery plan for the DPS that includes site specific actions in all Puget Sound watersheds:** NMFS and our recovery partners will develop a recovery plan that is informed by local plans for all watersheds within the Puget Sound steelhead DPS.

- Prepare a draft DPS-wide recovery plan for Puget Sound steelhead; incorporate existing implementation actions for Chinook and chum by reference
- Include watershed-level plans for all watersheds within the DPS in the final recovery plan
- Watershed plans will vary based on the comprehensiveness of existing plans for other species in the area, available local resources, and tribal participation.

**(2) Develop a recovery plan for the DPS that includes a watershed recovery plan template:** Develop a watershed recovery plan template, informed by the outcome of ongoing recovery plan pilot projects in the Nisqually and Hood Canal watersheds. Other watersheds may adapt the template to a specific threat, region, population structure (such as MPG or DIP), and/or life-history strategy (winter and summer populations) as appropriate for their area.

- Prepare a draft DPS-wide recovery plan for Puget Sound steelhead; incorporate existing implementation actions for Chinook and chum by reference
- Use the two watershed-level plans currently under development to create a watershed template

- Develop watershed-level plans as the DPS-wide plan is being drafted; use the template as appropriate
- Finalize the recovery plan when the DPS-wide plan is complete, incorporating any completed watershed-level plans
- Amend the recovery plan as watershed-level plans are completed

**(3) Develop a recovery plan for the DPS without a watershed recovery plan template or site specific actions in all Puget Sound watersheds:** Develop the DPS recovery plan based on existing information, recognize the need for site specific recovery actions at the watershed level, and clarify the importance of research to address key data gaps.

- Prepare a draft DPS-wide recovery plan for Puget Sound steelhead; incorporate existing implementation actions for Chinook and chum by reference
- Finalize the recovery plan when the DPS-plan is complete, incorporating any completed watershed-level plans
- Amend the recovery plan as watershed-level plans and research are complete

### **Roles and Responsibilities**

NMFS will establish a recovery team:

- NMFS will work with Puget Sound tribes, the Partnership, Recovery Council members, agencies and stakeholders to identify and convene a recovery team.
- Develop terms of reference for a Puget Sound steelhead recovery team
- Work with appropriate partners, team members, and interested parties to adopt recovery goals (abundance, productivity, etc.) for Puget Sound steelhead
- Develop a plan outline and coordinate responsibilities for drafting plan sections among team members
- Convene team meetings as needed to keep on track and assess products and progress
- Review sections drafted by team members
- Prepare a draft DPS-wide plan and watershed chapters
- Compile initial sections and distribute draft plan for public review
- Incorporate comments from team members and other partners
- Make the draft plan available to the public
  - Convene public workshop(s) or solicit public comments as appropriate
- Incorporate comments and revise the draft recovery plan
- Publish a final plan

### **Schedule Considerations**

The schedule for completing a recovery plan will depend on decisions about the preferred planning approach and roles and responsibilities assumed by our recovery partners. We expect that the watershed-level recovery planning process will be informed by pilot projects underway in the Nisqually basin and Hood Canal. NMFS will work closely with the Tribes and State co-managers, Partnership and watershed leads to ensure that Puget Sound steelhead recovery planning capitalizes on the expertise and organizational structure of existing technical and planning teams.

#### Recovery Plan Milestones:

- Finalize Puget Sound Steelhead Population Identification and Viability Analysis – Spring 2013
- Convene technical workshop – May 2013
- Identify recovery planning partners and convene recovery team – Summer 2013
- Confirm preferred approach for working with watershed teams, clarify roles and responsibilities for elements of the recovery plan, and terms of reference for the recovery team – Summer 2013
- Prepare Recovery Plan Outline and draft initial sections of the Plan - Summer/Fall 2013
- Confirm process for determining recovery goals for demographically independent populations of Puget Sound Steelhead - Fall 2013
- Establish recovery goals for DIPs – Fall/Winter 2014
- Draft watershed recovery plans for Nisqually and Hood Canal pilot projects - TBD
- Prepare draft regional (DPS-level) Puget Sound Steelhead Recovery Plan – Fall 2015

This timeline depends on the planning approach and roles and responsibilities defined.

#### Prompt Questions

NMFS and recovery planners will need to discuss and make decisions about the planning approach, roles and responsibilities, and schedule for plan development. To get the conversation started, NMFS proposes that interested parties consider the following questions to help generate productive discussions with recovery partners, confirm the planning strategy, and move forward to start developing a recovery plan.

- We do not have funding to support recovery planning partners and recognize many of our partners have already committed substantial resources to salmon recovery planning. Given the limitation on resources, how should we shape the planning approach?
- What are your interests in specific functions and responsibilities for Puget Sound steelhead recovery planning and implementation? What do you think about the recovery team we proposed?
- How does the lack of a steelhead recovery plan affect you? Does your need for a recovery plan affect your preferences about planning approaches and roles and responsibilities?

## V. Literature Cited

- Burgner, R. L., J. T. Light, L. Margolis, T. Okazaki, A. Tautz, and S. Ito. 1992. Distribution and origins of steelhead trout (*Oncorhynchus mykiss*) in offshore waters of the North Pacific Ocean. Int. North Pac. Fish. Comm. Bull. 51, 92 p.
- Federal Register. 2013. Proposed rule; request for comments. Designation of Critical Habitat for Lower Columbia River Coho Salmon and Puget Sound Steelhead. Volume 78, No. 2726.
- Federal Register. 2011. 5-Year Reviews for 17 Evolutionary Significant Units and Distinct Population Segments of Pacific Salmon and Steelhead. Volume 76, No. 500448.
- Federal Register. 2008. Final Protective Regulations for Threatened Puget Sound Steelhead. Volume 73, No. 55451.
- Federal Register. 2007. Final Listing Determination for Puget Sound Steelhead. Volume 72, No. 26722.
- Federal Register. 2005. Final Listing Determination for 16 ESUs of West Coast Salmon, and Final 4(d) Protective Regulations for Threatened Salmonid ESUs. Volume 70, No. 37160.
- Federal Register. 1990. Listing and Recovery Priority Guidelines. Volume 55, No. 24296.
- Ford, M.J. (ed.). 2011. Status review update for Pacific salmon and steelhead listed under the Endangered Species Act: Pacific Northwest. U.S. Dept. Commer., NOAA Tech. Memo. NMFS-NWFSC-113, 281 p.
- Groot, C. and L. Margolis. 1991. Pacific salmon life histories. UBC Press, Vancouver, British Columbia, Canada: 564 pages.
- Hard, J.J., J.M. Myers, M.J. Ford, R.G. Cope, G.R. Pess, R.S. Waples, G.A. Winans, B.A. Berejikian, F.W. Waknitz, P.B. Adams, P.A. Bisson, D.E. Campton, and R.R. Reisenbichler. 2007. Status review of Puget Sound steelhead (*Oncorhynchus mykiss*). U.S. Dept. Commer., NOAA Tech. Memo. NMFS-NWFSC-81.
- McElhany, P., M. H. Ruckelshaus, M. J. Ford, T. C. Wainwright, and E. P. Bjorkstedt. 2000. Viable salmonid populations and the recovery of evolutionarily significant units. U.S. Dept. Commer., NOAA Tech. Memo. NMFS-NWFSC-42.
- NWIFC (Northwest Indian Fisheries Commission). 2012. 2012 State of Our Watersheds Report. Salmon and Steelhead Habitat Inventory and Assessment Program. 336 p. <http://nwifc.org/publications/sow/>
- NWIFC (Northwest Indian Fisheries Commission). 2011. Puget Sound Steelhead, *Oncorhynchus mykiss*: NOAA-Fisheries Threshold Intrinsic Potential Model Assessment. Puget Sound Steelhead Foundations Project, by Tyson Waldo, Bruce Jones and Christopher Clark. June 2011.
- NMFS (National Marine Fisheries Service). 2013. Conservation Banking Guidance: For the Review, Establishment, Use and Operation of Conservation Banks and In-Lieu-Fee

Arrangements for Compensatory Mitigation. Habitat Conservation Division, Northwest Region, National Marine Fisheries Service, National Oceanic and Atmospheric Administration. January 2013.

NMFS (National Marine Fisheries Service). 2011. Endangered Species Act Section 7(a)(2) Biological Opinion and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Consultation. Evaluation of the 2010-2014 Puget Sound Chinook Harvest Resources Management Plan under Limit 6 of the 4(d) Rule. Consultation Number: F/NWR/2010/06051.

NMFS (National Marine Fisheries Service). 2007. Puget Sound Salmon Recovery Plan, adopted by the NMFS, January 19, 2007, submitted by the Shared Strategy Development Committee.

PSSTRT (Puget Sound Steelhead Technical Recovery Team). 2013a. Identifying historical populations of steelhead within the Puget Sound distinct population segment. Puget Sound Steelhead Technical Recovery Team Report. Final Draft. Northwest Fisheries Science Center, NMFS. Seattle, WA. 152 p.

PSSTRT (Puget Sound Steelhead Technical Recovery Team). 2013b. Viability Criteria for Puget Sound Steelhead. Puget Sound Technical Recovery Team Report. Final Draft. Northwest Fisheries Science Center, NMFS, Seattle, WA. 171 p.

Skidmore, P.B., C.R. Thorne, B.L. Cluer, G.R. Pess, J.M. Castro, T.J. Beechie, and C.C. Shea. 2011. Science base and tools for evaluating stream engineering, management, and restoration proposals. U.S. Dept. Commer., NOAA Tech. Memo. NMFS-NWFSC-112, 255 p.

WDFW (Washington Department of Fish and Wildlife). 2008. Statewide Steelhead Management Plan: Statewide Policies, Strategies, and Actions. February 29, 2008. <http://wdfw.wa.gov/publications/00149/wdfw00149.pdf>